



California Regional Water Quality Control Board

Central Valley Region

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25 MARCH 2010 ANNUAL MONITORING REPORT REVIEW - SOUTH SAN JOAQUIN IRRIGATION DISTRICT

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff reviewed the Annual Monitoring Report (AMR) for the South San Joaquin Irrigation District (District) dated 25 March 2010. The District submitted this report to meet the conditions of the Monitoring and Reporting Program (MRP) Order No. R5-2003-0827 for Individual Dischargers under Resolution No. R5-2003-0105 and the associated Individual Discharger Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Individual Waiver) Order No. R5-2006-0054.

On 22 February, the South San Joaquin Irrigation District submitted an extension request to change the 1 March 2010 Annual Monitoring Report due date to March 29. The District requested the extension because the final monitoring results for the reporting period were not received until mid February, giving the District only two weeks to prepare the report. The Executive Officer approved the District's request on 25 February.

Central Valley Water Board staff reviewed the AMR to evaluate it for the required reporting conditions described in the Order and in the District's MRP Plan. In this memorandum, staff presents comments and recommendations pursuant to the Order and MRP Plan. The review is divided into sections. The section titles are the same as the titles used in the attached AMR Checklist.

Item 1, 2, 3: Signed Transmittal Letter, Title Page, Table of Contents

The AMR included these required components described in the Order. Staff recommends that the section names in future reports match those found in the MRP section III.C. Annual Monitoring Report components.

Item 6: Monitoring Objectives and Design

The District conducted its irrigation and storm season monitoring events, comprised of two irrigation events, one storm, and one post storm event.

Item 9: Tabulated Results of all Analyses Presented

The District reported the analytical results in tabular form, as requested in previous AMR reviews. The 2009 Tabulated Data table found between pages 19 and 20 appear to be incomplete if it is intended to represent the 2009 data as the Table's title suggests. The analytes such as flow, potassium, clopyralid, and aminopyralid are not found in the table. However results for flow, potassium, and clopyralid are found elsewhere in the AMR. This information should be included in the Tabulated Data table in the next AMR.

The results for the pesticide aminopyralid (Milestone) are not found in the AMR. The District applied aminopyralid in July and August (see Table 2) on a trial basis. On 5 April, Staff contacted the District regarding sample results for Milestone. The District explained that there was a communication mix-up between itself and the laboratories. Thus, Milestone analysis was not conducted. Further, the District stated it set up application trials in areas that could not enter any waterway. Should the district apply a pesticide to areas where it has the potential to reach surface waters of the State, sampling must be conducted in accordance with the MRP.

During the reporting period, three pH and four dissolved oxygen exceedances were reported. See Item 18.

Staff prepared Table 1 below summarizing the results for the applied pesticides. No results for aminopyralid were found in the AMR. The gray shaded fields represent exceedances of the chemicals that were applied and measured. According to the data, exceedances of diuron were observed on 20 January from the first rain event. The discharges from the storm season appear to have caused more detections of diuron, glyphosate, prodiamine, and triclopyr than in the irrigation season. Aminopyralid, triclopyr and prodiamine do not have established trigger limits. According to the Sacramento and San Joaquin Basin Plan, the Central Valley Water Board may apply one-tenth of the LC50 where valid testing has developed 96 hour LC50 values, or use other available technical information on the pesticide to derive an objective. Derivation of objectives or trigger limits for aminopyralid, triclopyr and prodiamine should be vetted through the Technical Issues Committee.

Table 1. Monitoring Result Summary

StationCode	SampleDate	Aminopyralid ug/L	Bromacil ug/L	Clopyralid ug/L	Diuron ug/L	Glyphosate ug/L	Phosphorus as P mg/L	Potassium ug/L	Prodiamine ug/L	Total Dissolved Solids mg/L	Total Kjeldahl Nitrogen mg/L	Total Organic Carbon mg/L	Triclopyr ug/L
DRAIN 11	08/27/09		ND	ND	ND	ND	0.12	1470	ND	100	3.1	2.7	ND
	10/15/09		ND	ND	ND	ND	0.1	1340	ND	83	ND	4.1	ND
DRAIN 12	08/27/09		ND	ND	ND	ND	0.39	3320	ND	93	3.6	4.4	ND
	10/15/09		ND	ND	0.23	ND	1.6	11100	ND	153	1.6	15.1	0.51
DRAIN 14	08/27/09		ND	ND	ND	ND	0.119	1440	ND	126	5.7	1.8	ND
	10/15/09		ND	ND	0.2	7.8	0.28	3170	ND	71	1	7.4	0.19
RAIN EVENT DRAIN 11	01/20/10		ND	ND	9.77	5	0.64	10900	2	775	2.1	10.3	ND
RAIN EVENT DRAIN 12	01/20/10		ND	ND	253	7	1.2	22300	2.2	264	2.3	15	0.26
RAIN EVENT DRAIN 14	01/20/10		ND	ND	0.68	42	0.59	8340	1.6	160	1.7	8.5	0.16
POST RAIN EVENT DRAIN 11	01/26/10		ND	ND	1	ND	0.39	3610	0.4	426	0.75	5.5	ND
POST RAIN EVENT DRAIN 12	01/26/10		ND	ND	0.87	ND	1.9	29000	1	268	4.4	19.5	0.18
POST RAIN EVENT DRAIN 14	01/26/10		ND	ND	0.21	4	0.5	9770	1.4	125	1.8	10.7	ND

Shaded = exceedance

Item 14: Pesticide Use Reports

This section reports the pesticides used by the District and certain pesticides that are subject to the District's current NPDES permit (i.e. Aquamaster, Magnacide). According to the PURs presented in the AMR, the District also used the pesticide triclopyr (Garlon 3A), which is omitted in Section 1.3. This omission was previously brought to the District's attention in the 2009 AMR review.

Staff prepared Table 2 below reporting the pesticide, month of application, and the month when the sample event occurred. The sample dates the District chose to use during the reporting period appear to have captured a representative number of the District's chemical applications. The District may have considered Staff's previous AMR Review recommendation to coordinate sampling with chemical application.

Table 2. SSJID Pesticide Applications (X) During 2009

Chemical Applied by District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Diuron (Direx 3L)	x	x	x	x								x
Prodiamine (Endurance)	x										x	x
Bromacil (Krovar)		x		x					x			
Aminopyralid (Milestone)							x	x				
RoundUp (RoundUp Pro)	x	x	x	x	x	x	x	x	x	x	x	x
Clpyralid, Monoethanolamine Salt (Transline)				x			x					
Triclopyr (Garlon 3A)		x	x							x		

Shaded = Month sample collected

Item 13: Summary of Precision and Accuracy

Laboratory QA/QC complies with the Conditional Waiver requirements with a sufficient number of matrix spikes, equipment blanks, field duplicates, and calculated relative percent difference. The data quality objectives were met for the chemicals applied by the District.

Item 18: Field Data Sheets, Signed Laboratory Reports

On page 8, the District stated that the field data sheets for the 27 August event have not been found. Therefore pH, temperature, electrical conductivity, turbidity, and dissolved oxygen for this event are not reported in the AMR. Appendix B tabulated the field results indicating two dissolved oxygen and one pH exceedance (see Table 3 below).

Table 3. SSJID Dissolved Oxygen, pH, Specific Conductance 2009 Results

StationCode	SampleDate	DO mg/L	pH	EC umhos/cm
DRAIN 11	08/27/09	-	-	-
	10/15/09	11.2	7.59	0.124
DRAIN 12	08/27/09	-	-	-
	10/15/09	8.07	8.01	0.177
DRAIN 14	08/27/09	-	-	-
	10/15/09	8.07	7.59	0.094
RAIN EVENT DRAIN 11	01/20/10	14	7.94	579
RAIN EVENT DRAIN 12	01/20/10	13.2	7.49	2
RAIN EVENT DRAIN 14	01/20/10	13.6	7.74	1
POST RAIN EVENT DRAIN 11	01/26/10	15.7	6.99	663
POST RAIN EVENT DRAIN 12	01/26/10	5.07	6.77	361
POST RAIN EVENT DRAIN 14	01/26/10	12	7.5	164

Shaded = exceedance

Item 19: Conclusions and Recommendations

As per the Order, based on the results of the monitoring program after a minimum of one year, the District may submit a revised MRP Plan requesting a reduction in the constituents monitored and/or sample frequency. If such reductions are warranted, the MRP may be revised by the Executive Officer. The District plans to submit this list later in 2010.

Annual Monitoring Report Review Checklist

Item No.	3/27/10 SSJID 2009 AMR	Acceptable	Unacceptable	Not Included/Incomplete	Not Applicable	Page # (Section #)	Comments	Notes
1	Signed Transmittal Letter with penalty of perjury statement	X						
2	Title Page	X						
3	Table of Contents	X						
4	Executive Summary (not required under Order)	X				Preface - Section should summarize activities, results, conclusions/recommendations. 4	Triclopyr (Gardon3A) not listed here section 1.3.	
5	Description of the District's geographical area	X				1		
6	Monitoring Objectives and Design	X				2		
7	Sampling Site Descriptions	X				3		
8	Location maps(s) of sampling sites, crops, and land uses	X				Fig. 1, Fig. 2		
9	Tabulated Results of all analyses presented in tabular form so that the required information is readily discernible			X		7,9-12, 20	Clorpyralid & Aminopyralid absent from list and 2009 Tabulated Data. No results for aminopyralid. Results for absence should be clearly explained.	
10	Sampling and analytical methods used	X				4		
11	Copy of chain-of-custody forms	X				Apdx D-G		
12	Associated laboratory and field quality control samples results	X				Apdx B		
13	Summary of precision and accuracy	X				13		
14	Pesticide Use Reports	X				(1.3)	Omission of Gardon in section 1.3.	

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Item No.	3/27/10 SSJID 2009 AMR	Acceptable	Unacceptable	Not Included/Incomplete	Not Applicable	Page # (Section #)	Comments	Notes
15	Data interpretation including assessment of data quality objectives	X				14	Also found in lab reports	
16	Summary of management practices used by the District	X				14		
17	Actions taken to address water quality exceedances that have occurred, including, but not limited to, revised or additional management practices implemented	X				14		
18	Field data sheets, signed laboratory reports, laboratory raw data			X		8	Received lab rpt. Missing field sheets for storm sample events.	
19	Conclusions and Recommendations	X				14		